

**REMARKS**

Claims 1-30 are pending.

Claims 1-30 are rejected.

The office action dated July 10, 2008 indicates that claims 1-30 are rejected under 35 USC §§102(b) and 103(a) as being unpatentable over Gupta U.S. Patent No. 6,405,308. Base claim 1 is rejected under section 102, and base claim 21 is rejected under section 103. These rejections are respectfully traversed.

Gupta discloses a framework for describing a product line (col. 2, lines 4-5). Gupta's framework includes parts described in a parts catalog, and relationships between components of the parts (Abstract and col. 2, lines 6-14). Some of the parts are included in a product by default, some are necessary, and some are optional (col. 7, lines 26-35). Relationships between the parts are described by the terms "included", "excluded", "removed" and "choice needed" (col. 2, lines 25-26 and col. 6, lines 22-31). These relationships appear to be specific actions for evaluation (e.g., "removed" relationship causes items to be removed). Gupta describes a sales tool for helping an automobile shopper select features on an automobile (col. 1, lines 54-55). Gupta does not disclose a tool for defining products.

In contrast, claim 1 recites a "requirements-driven approach to product design wherein products and manufacturing processes are option-controlled" (see page 5, lines 5-6 of the specification). The method of claim 1 can be used to manage the configuration of an engineering design and the manufacturing processes to build and assemble that design. The method of claim 1 can enable design engineers to design a product with optional configurations, and enable manufacturing engineers to define the best way to build the product with its optional configurations.

Claim 1 has been amended to clearly recite the use of an applicability expression including at least one of an engineering requirement and a manufacturing availability associated with at least some usage-based product definition inputs.

Gupta's product descriptions don't include "availability expressions" which include operators and at least one operand. Gupta's framework does not include engineering requirements or manufacturing availability. Gupta's product definitions are provided in plain English, and they simply indicate the availability of certain product features.

Therefore, Gupta does not teach or suggest the method of claim 1. For this reason alone, claim 1 and its dependent claims 2-18 should be allowed over Gupta.

Moreover, the office action does not establish a prima facie case of unpatentability of claim 1. The office action states that Gupta's method allows a user to interactively select and configure a product. From this single statement, the office action concludes that all claimed features are either disclosed by Gupta or rendered obvious by Gupta.

MPEP 2131 states "TO ANTICIPATE A CLAIM, THE REFERENCE MUST TEACH EVERY ELEMENT OF THE CLAIM". In addition, the MPEP repeatedly states that the burden is on the USPTO to set forth a prima facie case of unpatentability. This burden has not been met with respect to the '102 rejections.

As for obviousness, MPEP 2142 states "The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that 'rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of

obviousness" (citations omitted). The office action only provides conclusory statements.

The office action only provides conclusory statements with respect to the '103 rejection of base claim 21. Because the office action does not establish prima facie obviousness of base claim 21, the '103 rejection should be withdrawn.

Claim 31 is new. New claim 31 recites a component definition expression including a range of products, a mathematical operator, and a range of available configurations for that component. New claim 31 further recites a product definition expression including at least one component definition, a mathematical operator, and a specific configuration. Gupta does not teach or suggest these features. Therefore, claim 31 and its dependent claim 32 should be allowed over Gupta.

An added claims fee has not been incurred by the addition of claims 31-32. Claims 19-20 have been cancelled.

The office action indicates that claim 20 is rejected under 35 USC §112, as being indefinite. This rejection has been rendered moot by the cancellation of claim 20.

The office action also indicates that claims 1-30 are rejected under 35 USC §101 for reciting nonstatutory subject matter. The office action alleges these claims must be tied to another statutory class or they must transform underlying subject matter to a different state or thing. The office action concludes that claims 1-30 are not.

The '101 rejection is respectfully traversed with respect to claims 1-30. MPEP 2106 does not require subject matter to be either tied to a statutory class or capable of transforming underlying subject matter. It provides another judicial exception as well. MPEP 2106 (IV)(C)(2) states " A claimed invention is directed to a practical application

of a 35 U.S.C. 101 judicial exception when it ... (B) otherwise produces a useful, concrete and tangible result.”

The methods of base claims 1 and 21 are useful as they improve upon the industry-old practice of defining products in terms of engineering assemblies and defining end-item product usage of an assembly on an external bill of material or on drawing sheets (see the Background). The methods of claims 1 and 21 allow for rapid and efficient option-based changes in the product configuration process. Different embodiments of the method can reduce errors, improve consistency and decrease product configuration time (see Summary).

The methods of claims 1 and 21 are tangible as they set forth a practical application to produce a real-world result. The practical application / real world result is the definition of a product. The method of claim 21 is more specific, as it sets forth product definitions for fuselages, propulsion systems and other components of an air vehicle.

The methods of claims 1 and 21 are concrete, as they have a result that can be substantially repeatable and substantially produce the same result again.

Thus, claims 1-30 constitute statutory subject matter according to MPEP 2106. Therefore, the ‘101 rejection of claims 1-30 should be withdrawn.

New claims 31-32 also comply with MPEP 2106. Moreover, new claims 31-32 recite the use of a computer.

The office action objects to the drawings because elements 1910 and 1940 from Figure 19 and element 2010 from figure 20 are not described in the specification. Element 1940 is similar to element 1840 in Figure 18, which the specification describes as a closet product (see page 16, lines 8-9). The specification has been amended to identify element 1940 as a closet product.

Elements 1910 and 2010 are similar to element 1810 in Figure 18, which the specification describes as a unitized manufacturing assembly plan (see page 15, line 5). The specification has been amended to identify elements 1910 and 2010 as unitized manufacturing assembly plans.

The Examiner is encouraged to contact the undersigned to discuss any remaining issues prior to mailing another office action.

Respectfully submitted,

/Hugh Gortler #33,890/  
Hugh P. Gortler  
Reg. No. 33,890  
(949) 454-0898

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